

The Trouble with Fat

Insights into Low-Fat Eating

For years you've heard you should eat less fat. In a recent major study, however, a low-fat diet didn't lower the risk of breast cancer, **colorectal cancer** or heart disease in women past menopause. But don't pile on the butter and fried foods just yet. There's still plenty of evidence that a low-fat diet full of fruits, vegetables and whole grains can help you live a long, healthy life.

The major study is the Women's Health Initiative (WHI), one of the largest medical studies ever. One part of the study looked into the effects of a low-fat diet high in fruits, vegetables and grains. Previous studies had suggested, but not proven, that such a diet might reduce the risk of breast cancer, colorectal cancer and heart disease.

"Some of the media reports read as though everybody knew that a low-fat diet would prevent breast cancer, but in the scientific community this was a very open question," Dr. Ross

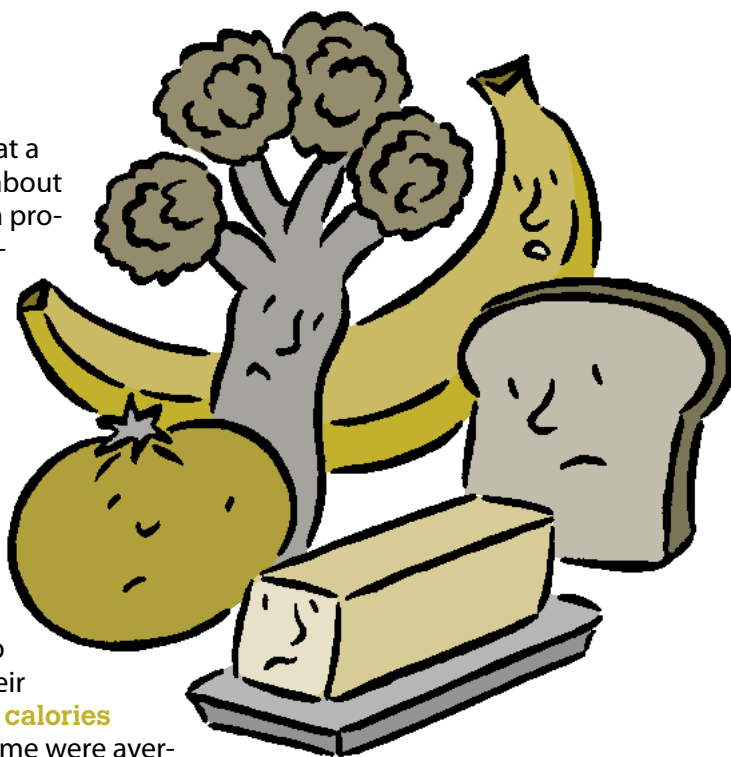
Prentice explained at a recent conference about the WHI. Prentice, a professor at the University of Washington, was involved in the study's design.

Women were randomly assigned to follow either a low-fat eating plan or, for comparison, to continue eating as they had been. Those in the low-fat group aimed to reduce their fat intake to 20% of **calories** (Americans at the time were averaging 34%), increase their fruits and vegetables to 5 or more servings a day and increase their grain servings to 6 or more a day.

Almost 49,000 women were followed for an average of 8.1 years. They had physical exams, filled out questionnaires about their diets and sent in updates about diseases such as cancer and heart disease, among other things.

The study found no major differences in colorectal cancer, heart disease or stroke between the two groups. Although there was a 9% lower risk of breast cancer among the women who reduced the amount of fat they were eating, that difference wasn't enough to prove it might not just be due to chance.

Prentice still thinks the result is encouraging. He also said he saw some other promising trends in the massive amount of data collected during this trial. For example, women who started at the highest levels of



fat decreased their fat intake more and had a reduced risk of breast cancer. Women who had the greatest decrease in the **saturated and trans fats** they ate saw improvements in their rates of heart disease. These fats weren't the focus of the study when it was designed, but we know they're more strongly related to heart disease than the total amount of fat you eat.

Women on the low-fat diet also
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Definitions

Calories

The amount of energy stored in food. When you eat more calories than your body can use, it stores that extra energy as fat.

Colorectal Cancer

Cancer of the colon or rectum, parts of the large intestine.

Saturated and Trans Fats

Types of fat in food that raise the level of cholesterol in your blood. The extra cholesterol can clog your arteries and put you at greater risk for having a heart attack or stroke.

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Wise Choices

What to Do?

While a low-fat diet may not lower your risk of breast cancer, colorectal cancer or heart disease, there are other proven ways to lower your risk:

■ **Breast Cancer:** Take steps, such as having regular mammograms and breast examinations, to catch breast cancer early.

■ **Colorectal Cancer:** Talk to your health care provider about when to begin tests, which ones to have and how often to schedule appointments.

■ **Heart Disease:**

- **Don't smoke, and if you do, quit.** See www.nhlbi.nih.gov/hbp/prevent/q_smoke/q_smoke.htm for help quitting.

- **Aim for a healthy weight.** Go to win.niddk.nih.gov to read about how to control your weight.
- **Get moving.** Aim for 30 minutes of moderate-intensity physical activity on most, if not all, days of the week. See win.niddk.nih.gov/publications/active.htm for tips on getting started.
- **Eat for heart health.** Choose a diet that's low in saturated fat, trans fat and cholesterol. Be sure to include whole grains, vegetables and fruits. See www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm for an eating plan that's clinically proven to help your heart.
- **Go to www.nhlbi.nih.gov/health/public/heart/index.htm** to learn more about heart health.



www.nhlbi.nih.gov/whi/recommend.htm

www.nhlbi.nih.gov/whi/diet_mod.htm

difference between the groups as they'd planned for. The women in the intervention group didn't meet their goals for eating grains, either, and toward the end the difference between them and the comparison group had narrowed. In addition, research shows that people often underestimate how much they eat; that could definitely affect the results. Things might also have turned out differently if the women had been followed for longer—or if younger women or even men had been studied.

So what should you take away from this study? Maybe it's best not to try thinking about eating and health in such simple terms. Most researchers believe that it's a lifetime of healthy eating habits that makes the real difference. Dr. Linda Van Horn of Northwestern University pointed out at the conference, "I've never seen a study yet that says fruits and vegetables are bad for you."

In another arm of the WHI, a study in which researchers tracked nearly 94,000 women for an average of 7 years, women who weighed less and exercised more had a lower risk of developing breast cancer. These two factors—controlling your weight and getting physical activity—turn up time and time again in studies looking into heart disease, cancers and a whole host of other health issues.

Dr. Elizabeth Nabel, director of NIH's National Heart, Lung, and Blood Institute, which supported the WHI, commented, "The results of this study really do not change any established recommendations for women in terms of disease prevention."

So while simply lowering the amount of fat you eat may not lower your risk of breast or colorectal cancer, eating well and exercising over the course of a lifetime will help your chances of living a long, healthier life. ■

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weighed about 5 pounds less than the comparison group after a year. After 9 years of follow-up, they still weighed about a pound less on average. Those on the low-fat diet had modest improvements in other measures that are proven risk factors for heart disease as well.

But to prove all these connections, Prentice explained, "We need longer follow-ups for a more definitive evaluation."

To put these results in perspective, what scientists call a nega-

tive result—one that fails to prove something—doesn't prove an idea is wrong. For example, low-fat eating didn't turn out to be a magic bullet to prevent breast and colorectal cancer, but there still may be a connection. Cancer takes years to develop, and this study may simply not have been long enough to expose it.

Also, there are many things that could have confused the results of this study. Because of recent eating trends, women in the comparison group ate less fat than the researchers expected, so there wasn't as much

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newsinhealth.nih.gov

Editor Harrison Wein, Ph.D.

wein@od.nih.gov
Tel: 301-435-7489 Fax: 301-496-0019

Contributors

Margaret Georgiann (illustrations),
Catherine Law and Harrison Wein.

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Winning at Losing

How to Keep that Weight Off

Getting your weight under control can help you avoid many health problems. While there are many ways to successfully lose weight, most people regain it over time. Ongoing research is now giving us insights into how to keep that weight off.

Dr. Rena Wing of Brown Medical School and The Miriam Hospital spoke at NIH recently about the latest research in weight control. She explained how the National Weight Control Registry (NWCR), an effort funded in part by NIH, is helping researchers find out not only how people lose weight but how they can maintain their weight loss.

The NWCR is a different kind of study. Rather than randomly putting people into groups and testing different methods, the researchers set up a registry that anyone can join if they've lost at least 30 pounds and kept it off at least a year. Those who enroll fill out questionnaires about how they lost weight, how they're trying to keep it off and other aspects of their health. There are now over 6,000 people in the study. They've lost an average of about 70 pounds and have maintained their weight loss for an average of 5.7 years.

Wing said that the methods people in the registry used to lose weight varied. They included cutting down on certain foods, eating less overall, liquid diets and many others.

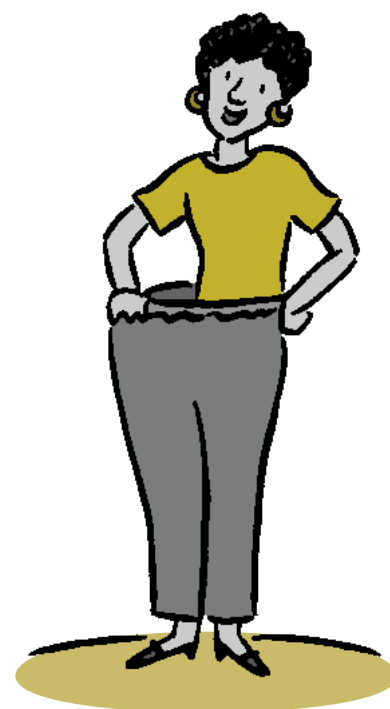
In contrast, there isn't a whole lot of difference in how they maintain

their weight. People who successfully control their weight, Wing explained, tend to eat a low-fat diet, watch their total calories and do a lot of physical activity.

Can the lessons learned from the NWCR teach others how to control their weight? Wing just completed an NIH-funded study called STOP-Regain to find out. She and her research team enrolled 314 people who'd recently lost at least 10% of their body weight. They were randomly divided into 3 groups. One group had meetings and weight-control lessons in person. A second group got their lessons over the Internet and met in on-line chat rooms. For comparison, the third group got only quarterly newsletters.

The researchers devised a color-coded system for the in-person and Internet groups. People in the green zone (less than 2 pounds over their starting weight) got gifts. Those 3-4 pounds above their starting weight were in the yellow zone, where they were encouraged to be careful and figure out why they were gaining weight. Those 5 or more pounds above were in the red zone; they got individual counseling to help them start losing again.

The study confirmed that people who've recently lost weight are at high risk of regaining it. Almost 75%



of those in the newsletter group had regained 5 pounds or more by the end of 18 months. The lessons and meetings, however—in person or by Internet—helped reduce the amount of weight people regained.

Those who succeeded in keeping their weight off, Wing explained, got on the scale every day and took action immediately if they saw changes they didn't like. "People in the [in-person and Internet] groups have learned to use that information from the scale to self-regulate their eating and exercise behaviors," she said.

There are several proven ways to lose weight. With a little change in your thinking, you can keep it off. ■



National Weight Control Registry:
www.nwcr.ws

Aim for a Healthy Weight:
www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/index.htm

Weight-control Information Network:
win.niddk.nih.gov/index.htm



Wise Choices

Keeping Weight Off

The National Weight Control Registry continues to give us clues about how to keep weight off:

- **Keep eating fewer calories.**
- **Exercise regularly.** Over 90% of those who've kept their weight off use physical activity as part of their weight control program.
- **Eat a healthy breakfast.**
- **Weigh yourself daily.** Plan for how to get back on track if your

weight begins to creep up.

- **Watch the fast food.** People in the registry eat fast food less than once a week, and eat out no more than 3 times a week.
- **Don't be a couch potato.** Almost 2 of every 3 people in the registry watch less than 10 hours of TV per week—much less than average. Try to exercise instead of eating while you watch.
- **Stay consistent.** Those who "go off their diet" on weekends, vacations or holidays have a harder time keeping weight off.

Health Capsules

Supplements May Not Help Knee Pain

Many people use the popular **dietary supplements** glucosamine and chondroitin sulfate to treat **osteoarthritis**. But a new study sponsored by NIH shows that these substances—which are naturally found in and around **cartilage**—may not work as well as many hoped.

Researchers led by rheumatologist Dr. Daniel O. Clegg of the University of Utah School of Medicine enrolled nearly 1,600 people with osteoarthritis of the knee in the Glucosamine/chondroitin Arthritis Intervention Trial (GAIT). They were randomly

assigned to receive 1 of 5 treatments for 24 weeks: glucosamine, chondroitin sulfate, glucosamine and chondroitin sulfate combined, a **placebo** or celecoxib, a pain medication.

Those taking celecoxib had less pain after 24 weeks than those taking placebo. However, there were no significant differences between the other treatments and placebo. When the researchers looked closer, glucos-

amine combined with chondroitin sulfate did provide pain relief for a smaller subgroup of people with moderate-to-severe pain.

Because of the small number of people in the moderate-to-severe pain group, however, Clegg commented that the findings “should be considered preliminary and need to be confirmed in a study designed for this purpose.”

Measures of pain over a 24-week period don't rule out the possibility that these compounds may still help with osteoarthritis. The GAIT team is continuing their research to examine whether glucosamine and chondroitin sulfate can delay the progression of osteoarthritis. The results of that study are expected in about a year. ■

Calcium and Vitamin D Trial Results

As part of the WHI (see main story), researchers looked into the effects of calcium and vitamin D supplements in healthy postmenopausal women. Researchers knew that calcium and vitamin D were important for bone health, so they wanted to see if supplements could prevent hip fractures. Some studies also suggested they might help reduce the risk of colorectal cancer—cancers of the colon or rectum, parts of the lower intestine.

Half of the over 36,000 women who joined the study received supplements while the other half got **placebo** pills. The women were followed for an average of 7 years. Three-quarters were still taking their pills by the study's end.

Overall, the supplements had no effect on spine fractures, total fractures or colorectal cancer. There was a small increase in hip bone strength for those taking calcium and vitamin D. Women in the supplement group also had fewer hip fractures than the placebo group, but the difference may have been due to chance.

Women who consistently took the full supplement dose, however, had a significant decrease in hip fractures. Those older than 60 also had fewer hip fractures with the supplements.



Definitions

Cartilage

The tissue that cushions the ends of bones within joints.

Dietary Supplements

Vitamins, minerals, herbs and other substances meant to improve upon your diet.

Osteoarthritis

A common disease caused by the breakdown of cartilage in your joints, bringing pain and limiting motion.

Placebo

A look-alike substitute with no active ingredients. Used to compare how well an experimental treatment works.

The supplements caused a 17% increase in kidney stones but no other ill effects. Dr. Joan McGowan of NIH's National Institute of Arthritis and Musculoskeletal and Skin Diseases, who was a co-author of the research report, said, “Since hip fractures are considered to be more serious than kidney stones, on balance, the public health benefit of the supplements outweighs the risks.”

If you're a woman over 60, you might consider taking calcium and vitamin D supplements for bone health. If the foods you eat contain enough calcium and vitamin D, however, you may not need supplements. Talk to your health care provider to see if they're right for you. ■



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Featured Web Site

American Indian Health

[americanindianhealth.
nlm.nih.gov](http://americanindianhealth.nlm.nih.gov)

This web site brings together a broad range of health and medical resources for people of American Indian or Alaska Native ancestry.

From NIH's National Library of Medicine.

